

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 215743/RV/jn	FOR FURTHER ACTION		See item 4 below
International application No. PCT/NL2005/000434	International filing date (<i>day/month/year</i>) 14 June 2005 (14.06.2005)	Priority date (<i>day/month/year</i>) 15 June 2004 (15.06.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant TECHNISCHE UNIVERSITEIT EINDHOVEN			

<ul style="list-style-type: none"> 1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a). 2. This REPORT consists of a total of 7 sheets, including this cover sheet. <p style="margin-top: 10px;">In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>	<ul style="list-style-type: none"> 3. This report contains indications relating to the following items: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center; padding: 5px;"> <input checked="" type="checkbox"/> </td> <td style="width: 85%; text-align: left; padding: 5px;"> Box No. I Basis of the report </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. II Priority </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. IV Lack of unity of invention </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input checked="" type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. VI Certain documents cited </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. VII Certain defects in the international application </td> </tr> <tr> <td style="text-align: center; padding: 5px;"> <input type="checkbox"/> </td> <td style="text-align: left; padding: 5px;"> Box No. VIII Certain observations on the international application </td> </tr> </table> <ul style="list-style-type: none"> 4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2). 	<input checked="" type="checkbox"/>	Box No. I Basis of the report	<input type="checkbox"/>	Box No. II Priority	<input type="checkbox"/>	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI Certain documents cited	<input type="checkbox"/>	Box No. VII Certain defects in the international application	<input type="checkbox"/>	Box No. VIII Certain observations on the international application
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<input type="checkbox"/>	Box No. VIII Certain observations on the international application																

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 20 December 2006 (20.12.2006)</p> <p>Authorized officer Nora Lindner e-mail: pl02@wipo.int</p>
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

REC'D 23 MAY 2006

WIPO

PCT

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/NL2005/000434

International filing date (day/month/year)
14.06.2005

Priority date (day/month/year)
15.06.2004

International Patent Classification (IPC) or both national classification and IPC
INV. H05H1/24 A61B18/00

Applicant
TECHNISCHE UNIVERSITEIT EINDHOVEN

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- Box No. IV Lack of unity of Invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or Industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Capostagno, E

Telephone No. +31 70 340-3221



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2005/000434

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of:
 the international application in the language in which it was filed
 a translation of the International application into , which is the language of a translation furnished for the purposes of International search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material:
 on paper
 in electronic form
 - c. time of filing/furnishing:
 contained in the international application as filed.
 filed together with the international application in electronic form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2005/000434

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2-6, 8, 13-22
	No: Claims	1, 7, 9-12
Inventive step (IS)	Yes: Claims	16-18
	No: Claims	1-15, 19-22
Industrial applicability (IA)	Yes: Claims	
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

Reference is made to the following documents:

- D1: US-B1-6475217
- D2: WO-A1-01/70114
- D3: US-A-5163910
- D4: WO-A2-01/62169
- D5: WO-A1-95/24111

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 7, 9-12 is not new in the sense of Article 33(2) PCT.

1.1 The document D1, which is regarded as being the closest prior art to the subject-matter of claim 1, discloses (see fig. 3, 5 ; the references in parentheses applying to this document):

A device for generating a local cold plasma (46) over the surface of an object (50), comprising a HF power source (22), a plasma chamber (40), an active electrode (48) placed in the plasma chamber (40) and electrically connected to the HF power source (22), a passageway (28) for a plasma gas leading to the plasma chamber (40) nearby the active electrode (48), with steering means (160) capable of orienting the active electrode (48) with reference to the object (50).

The subject-matter of claim 1 is therefore not new, according to Article 33(2) PCT.

1.2 Further, D1 discloses an assembly containing all the additional features of dependent claims 7, 9-12, which therefore are not new. In particular:

- claim 7: the steering means comprises a shape memory material (col. 4, lines 18-22);
- claim 9: the steering means is placed around the active electrode (fig.3, 5);
- claims 10-12: the device comprises a catheter, with a proximal end and a distal end,

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.
PCT/NL2005/000434

where the active electrode is placed in the distal end, which forms an open plasma chamber (fig.3, 5).

2. Dependent claims 2-6, 8, 13-15, 19-22 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT), the reasons being as follows:
 - 2.1 The subject-matter of claims 2-5 is obvious in the light of D1 and D2 (page 25, lines 5-10; page 35, line 26 - page 36, line 6);
 - 2.2 The subject-matter of claim 6 is obvious in the light of D1 and D3 (col. 5, lines 60-67);
 - 2.3 The subject-matter of claim 8 is obvious in the light of D1 and D2 (page 37, lines 1-16);
 - 2.4 The subject-matter of claims 13-15 is obvious in the light of D1 and D4 (page 42, lines 24-29);
 - 2.5 The subject-matter of claim 19 is obvious in the light of D1 and D3 (col. 5, lines 42-46);
 - 2.6 The subject-matter of claims 20-22 is obvious in the light of D1 and D5 (page 3, lines 18-21; page 5, line 29 - page 6, line 9).
3. The combination of the features of dependent claims 16-18 is neither known from, nor rendered obvious, by the prior art, the reasons being as follows:
The possibility for the gas to flow coaxially outside the outer conductor, and with distance rings placed between the outer conductor and the external casing, is not suggested by the available prior art.
4. Additional remark

The drawing reference signs should be indicated in the claims (Guidelines, 5.11).

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/NL2005/000434

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

<p>To:</p> <p style="text-align: center;">see form PCT/ISA/220</p>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECD 23 MAY 2006 WIPO PCT </div> <p style="font-size: 1.5em; margin-top: 10px;">PCT</p>													
WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px; text-align: center;"> Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet) </td> </tr> <tr> <td style="width: 50%; padding: 5px;"> Applicant's or agent's file reference see form PCT/ISA/220 </td> <td style="width: 50%; padding: 5px; text-align: center;"> FOR FURTHER ACTION See paragraph 2 below </td> </tr> <tr> <td style="padding: 5px;"> International application No. PCTNL2005/000434 </td> <td style="padding: 5px;"> International filing date (day/month/year) 14.06.2005 </td> <td style="padding: 5px;"> Priority date (day/month/year) 15.06.2004 </td> </tr> <tr> <td colspan="3" style="padding: 5px;"> International Patent Classification (IPC) or both national classification and IPC INV. H05H1/24 A61B18/00 </td> </tr> <tr> <td colspan="3" style="padding: 5px;"> Applicant TECHNISCHE UNIVERSITEIT EINDHOVEN </td> </tr> </table>		Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)		Applicant's or agent's file reference see form PCT/ISA/220	FOR FURTHER ACTION See paragraph 2 below	International application No. PCTNL2005/000434	International filing date (day/month/year) 14.06.2005	Priority date (day/month/year) 15.06.2004	International Patent Classification (IPC) or both national classification and IPC INV. H05H1/24 A61B18/00			Applicant TECHNISCHE UNIVERSITEIT EINDHOVEN		
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Name and mailing address of the ISA:  European Patent Office - P.B. 6818 Patenttaag NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Capostagno, E Telephone No. +31 70 340-3221
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**WRITTEN OPINION OF THE
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International application No.
PCT/NL2005/000434

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International application No.
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Inventive step (IS)	Yes: Claims	16-18
	No: Claims	1-15, 19-22

Industrial applicability (IA)

Yes: Claims
No: Claims

2. Citations and explanations

see separate sheet

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/NL2005/000434

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 December 2005 (29.12.2005)

PCT

(10) International Publication Number
WO 2005/125287 A3

(51) International Patent Classification:
H05H 1/24 (2006.01) *A61B 18/00* (2006.01)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:
PCT/NL2005/000434

(22) International Filing Date: 14 June 2005 (14.06.2005)

(25) Filing Language: Dutch

(26) Publication Language: English

(30) Priority Data:
1026422 15 June 2004 (15.06.2004) NL

(71) Applicant (for all designated States except US): TECHNISCHE UNIVERSITEIT EINDHOVEN [NL/NL]; Den Dolech 2, NL-5612 AZ Eindhoven (NL).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KB, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TI, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BR, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): STOF-FELS-ADAMOWICZ, Eva [BE/BE]; Tumhoutsebaan 90, B-5470 Retie (BE). FRANKEN, Martijn [NL/NL]; Prunellapad 31, NL-5643 BW Eindhoven (NL). STEIN-BUCH, Maarten [NL/NL]; Medevoort 7, NL-5707 DD Helmond (NL). VAN DER LAAN, Ewout, Peter [NL/NL]; Stellenboschstraat 130, NL-5642 GM Eindhoven (NL).

Published:

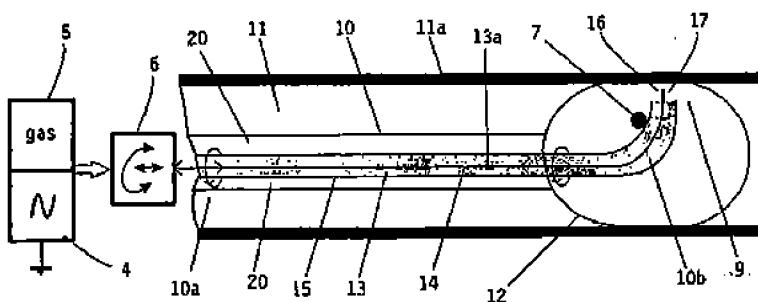
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(74) Agents: VALKONET, Rutger et al.; Algemeen Octrooien Merkenbureau, P.O. Box 645, NL-5600 AP Breda (NL).

(86) Date of publication of the International search report:
3 August 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DEVICE FOR CREATING A LOCAL PLASMA AT THE LOCATION OF AN OBJECT



(57) Abstract: The invention relates to a device for creating a local cold plasma at the location of an object, said device at least comprising a high-frequency power source, a plasma chamber, a plasma discharge electrode disposed in said plasma chamber, which is electrically connected to said high-frequency power source, as well as a supply line for a plasma gas, which opens into the plasma chamber at a location near the plasma discharge electrode. The object of the invention is to provide an improved device as referred to in the introduction, which enables an improved control of the created plasma in relation to the object. To that end, the device according to the invention is characterized in that the device comprises adjusting means arranged for automatically orienting the plasma discharge electrode relative to the object.

WO 2005/125287 A3

INTERNATIONAL SEARCH REPORT

national application No
T/NL2005/000434

A. CLASSIFICATION OF SUBJECT MATTER
INV. H05H1/24 A61B18/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H05H A61B A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 475 217 B1 (PLATT ROBERT C) 5 November 2002 (2002-11-05) column 1, line 66 - column 2, line 29 column 3, line 22 - line 27 column 3, line 59 - column 4, line 25 column 5, line 25 - line 62 column 7, line 2 - line 6 figures 3-5	1,7,9-12
Y	----- -----	2-6,8, 13-15, 19-22
		-/-

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

"T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the International search:

10 May 2006

Date of mailing of the International search report

23/05/2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
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INTERNATIONAL SEARCH REPORT

International application No

CT/NL2005/000434

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Applicant TECHNISCHE UNIVERSITEIT EINDHOVEN et al	

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<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
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